

**WHAT IS CLAIMED IS:**

1. A paint manufacturing method comprising:  
receiving each of a plurality of fluid prepaints at different ones of a plurality of inputs of  
a fluid component mixing system;  
5 determining at a computer system a first fluid prepaint ratio comprising a ratio to produce  
a first base paint selected from a plurality of base paints types that can be formulated  
from the plurality of fluid prepaints; and  
mixing the plurality of fluid prepaints in accordance with the first ratio to form at an  
output of the mixing system the first base paint.

2. The method of claim 1 further comprising tinting the first base paint to form a first  
colored paint.

3. The method of claim 1 further comprising:  
determining a second fluid prepaint ratio comprising a ratio to produce a second base  
paint selected from the plurality of base paints types; and  
15 mixing the plurality of fluid prepaints in accordance with the second ratio to form at an  
output of the mixing system the second base paint.

4. The method of claim 3 wherein the first and second base paints have different sheen level  
application characteristics, the sheen level characteristics being selected from the group  
consisting of a flat sheen, a satin sheen, a semi-gloss sheen, and a gloss sheen.

5. The method of claim 1 wherein the mixing system comprises a in-line mixing system and mixing in accordance with the first ratio comprises continuously flowing the fluid prepaints from the inputs to the output of the mixing system in accordance with the first ratio.
- 5      6. The method of claim 1 wherein mixing to form the first base paint comprises mixing without the addition of non-fluid components.
7. The method of claim 1 wherein mixing further comprises adding water.
8. The method of claim 1 wherein mixing comprises:  
10 receiving at the computer system sensor data indicating a volume of each of the plurality of fluid prepaints entering the mixing system; and  
sending a signal from the computer system to the mixing system to dynamically adjust a flow of each of the fluid prepaints based on the received sensor data.
9. The method of claim 8 wherein the computer system comprises a distributed computer system comprising multiple processing servers and database computers.
- 15      10. The method of claim 8 wherein:  
dynamically adjusting the flow comprises adjusting the flow of each prepaint to maintain at the first ratio the prepaints entering the mixing system.
11. The method of claim 10 wherein:  
the mixing system further comprises a plurality of electrically adjustable valves each  
20 configured to regulate a flow entering a different mixing system input; and

sending a signal to the mixing system comprises sending signals individually controlling each of the plurality of valves.

12. The method of claim 1 further comprising:  
receiving at the computer system a first customer order comprising a first paint quantity  
5 and a first paint type identifier; and  
determining at the computer system the first ratio based on the first paint type identifier.
13. The method of claim 12 wherein mixing comprises continuously mixing under control of the computer system to form a volume of the first base paint substantially equal to the first paint quantity.
- 10 14. The method of claim 12 wherein receiving the first customer order comprises receiving from a web client terminal and wherein mixing comprises mixing at a point-of-sale retail location in response to the first customer order.
- 15 15. The method of claim 14 wherein the first customer order further comprises a payment identifier and the method further comprises exchanging data comprising the payment identifier with a payment processing system.
16. The method of claim 15 wherein the payment identifier comprises an identifier selected from the group consisting of a consumer credit card number, a consumer debit card number, and a checking account identifier.
17. A paint manufacturing system comprising:  
20 a prepaint mixing system comprising a plurality of fluid inputs, each fluid input comprising a computer-controllable fluid flow control; and

a computer system operatively coupled to each fluid flow control, the computer system comprising a memory storing software instructions to configured the computer system to:

receive user input selecting a first one of a plurality of base paint types,  
5 determine a first ratio of fluid prepaints associated with the first base paint type, and regulate each fluid flow control to establish in the determined ratio a flow of fluid prepaints entering the fluid mixing system.

18. The system of claim 17 wherein the computer system comprises multiple separate processors interconnected by a data network.

10 19. The system of claim 17 further comprising a database comprising data associating each of a plurality of different base paint types with a ratio of fluid prepaints.

20. The system of claim 19 wherein the instructions to determine the ratio of fluid prepaints comprise instructions to query the database to retrieve the ratio.

15 21. The system of claim 19 wherein the database comprises data selected from the group consisting of:

an algorithm comprising stored instructions executable by the computer system, and stored associations between a plurality of base paint types and predetermined ratios of fluid prepaints.

22. The system of claim 19 wherein each fluid flow control comprises a valve operatively coupled to the computer system.

23. The system of claim 22 wherein operatively coupled comprises coupled by a pneumatic controller.

24. A paint manufacturing system comprising:

a plurality of paint manufacturing sites each operable to produce a paint product and each comprising a site control computer comprising instructions to control a paint manufacturing process; and

5 a coordinating computer system operatively coupled to each of the plant control computers by a network, the coordinating computer system comprising stored software instructions to configure the coordinating computer to exchange manufacturing operations data with the plurality of site control computers.

10 25. The system of claim 24 wherein the instructions to control a paint manufacturing process comprise instructions to control a ratio of manufacturing ingredients in a paint product produced at a paint manufacturing site.

15 26. The system of claim 24 wherein the instructions to exchange manufacturing operations data comprise instructions to receive paint manufacturing supply data from each of the plurality of paint manufacturing sites, and the coordinating computer system further comprises instructions to automatically schedule a supply delivery based on the received supply data.

20 27. The system of claim 24 wherein each of the plurality of paint manufacturing sites comprise a fluid mixing system configured to produce a base paint from a plurality of fluid prepaints and water.

28. The system of claim 24 wherein:

the coordinating computer system is further configured to receive customer order data from client computers; and

the instructions to exchange manufacturing operations data comprise instructions to process received customer order data and route the customer order data to one of the plurality of paint manufacturing sites.

5

29. The system of claim 28 wherein the instructions to route the customer order data comprise instructions to route based on site capacity data received at the coordinating computer system from the plurality of paint manufacturing sites.

10

30. The system of claim 24 wherein each paint manufacturing site comprises a manufacturing site configured for small-batch point-of-sale operation.

FEB 11 2010 10:22 AM  
U.S. PATENT AND TRADEMARK OFFICE

DOD  
J2